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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/529,384

03/28/2005

Kazuaki Bando

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EXAMINER

SCRUGGS, ROBERT J

ART UNIT

PAPER NUMBER

3723

MAIL DATE

DELIVERY MODE

11/18/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/529,384	<b>Applicant(s)</b> BANDO, KAZUAKI	
	<b>Examiner</b> ROBERT SCRUGGS	<b>Art Unit</b> 3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 13-24 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 27, 2008 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 13-15, 17-21, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bovone (5433657) in view of Bando (5396736) and Ercole et al. (4848005).

In reference to claims 13-15 and 19-21, Bovone discloses a glass-plate working apparatus comprising, grinding means (Column 1, Lines 59-63), grinding support means (Figure 1) that includes a supporting table (2), a plurality of suction cups (3) and arranging means formed as a user that places the suction cups in their proper position according to the workpiece being machined (Column 3, Lines 44-49), but lacks,

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transporting means including one lifting device for raising the glass plate to be carried in, another lifting device for raising the glass plate on the suction cup to be carried out and a slider to which said suction-cup lifting device, said one lifting device and said other lifting device are attached and which is linearly movable in one direction. However, Bando teaches a technique of providing transporting means formed with multiple lifting devices, one lifting device (56a) (Figure 1) for raising the glass plate to be carried in, another lifting device (56B) for raising the glass plate on the suction cup to be carried out the lifting devices are mounted to a slider (55) which is linearly movable in one direction. One of ordinary skill in the art could have applied the known technique of providing transporting means, as taught by Bando, in the same way to the device, of Bovone, and the results would have been predictable. In this situation, one could provide a grinding machine that is capable of adjusting immediately to different shaped workpieces and reduces the work time. In addition, Ercole et al. teach a technique of providing automatic arranging means that separately move work supporting elements (10) (Column 2, Lines 51-52, the work is not shown) from a worktable (2) by using a pick-up tool (11) that is attached to a moving frame (3) (or slider) for selectively picking up said movable elements (10) from an element support body (12) and positions said elements on said worktable or picks up said elements from said worktable and positions said elements back in said element support body (Figure 1). One of ordinary skill in the art could have applied the known technique of providing automatic arranging means attached to a slider, as taught by Ercole et al., in the same way to the device, of Bovone, and the results would have been predictable. In this situation, since Bando

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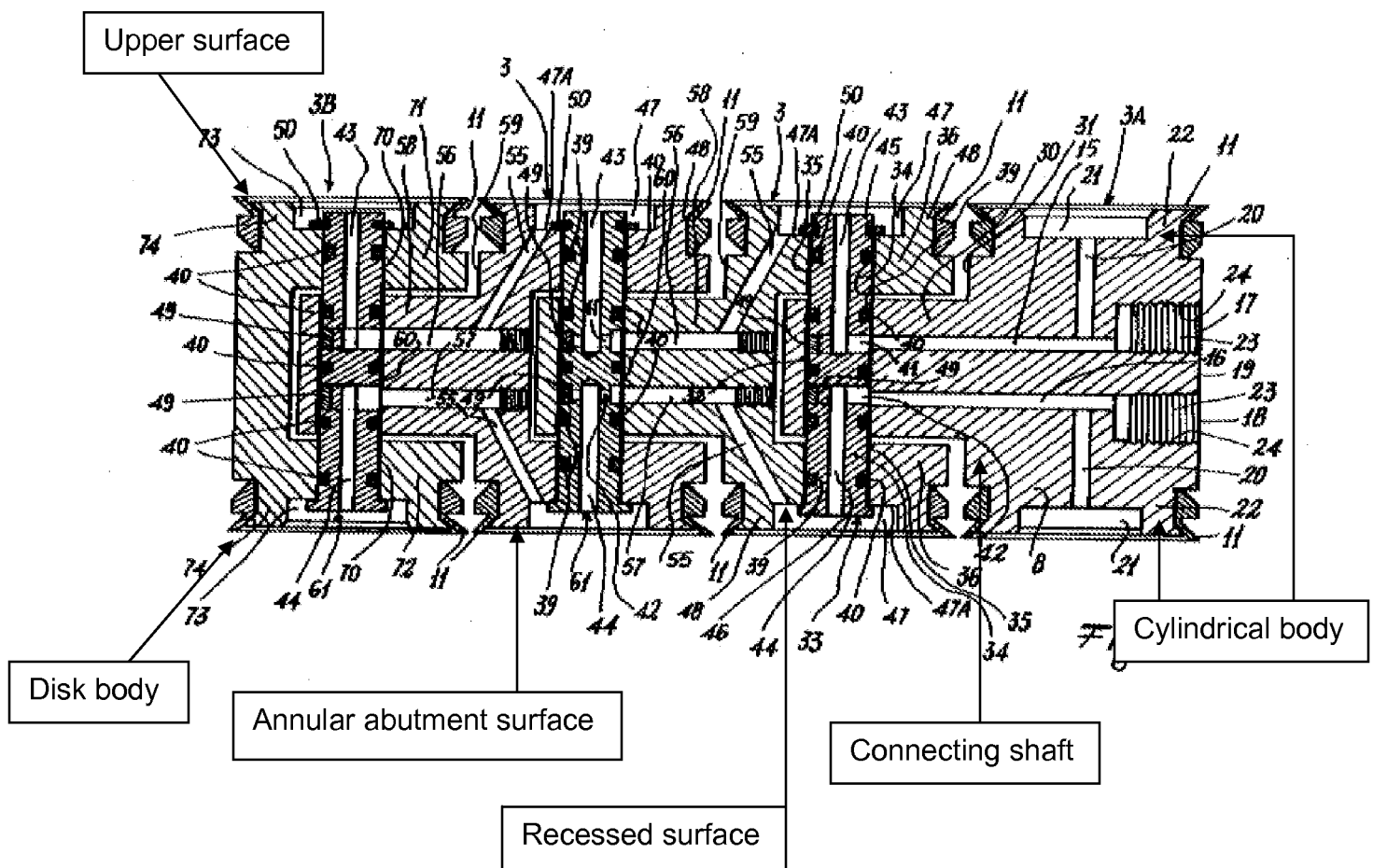
teaches that multiple lifting devices can be mounted to a slider, the pick-up tool, as taught by Ercole et al., that selectively positions that work supporting elements could also be mounted to the slider thereby providing a device that can more accurately and quickly position work supporting elements according to the work being used thus saving time and expense.

In reference to claims 17, 18, 23 and 24, Bovone also discloses a suction cup formed with a annular abutment surface (see figure below), a recessed surface (see figure below) held by suction (through lines 15, 16, 20, 55, 56).

4. Claims 16 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bovone (5433657) in view of Bando (5396736), Ercole et al. (4848005) and Monforte (4809425). Bovone also discloses that the suction cup includes a cylindrical body whose upper surface (see figure below) is covered with an elastic member (11) for abutment against the glass plate (1), a disk body (bottom portion) (see figure below) for abutment against said grinding supporting table and a connecting shaft (see figure below) which connects said disk body and said cylindrical body, but is silent in having a lifting device formed with grippers that move toward or away from each other. However, Monforte teaches that a robotic arm can be formed with multiple types of end effectors (Figures 3a-3h) and that they are all equivalent of one another where one such arm includes grippers (Figure 3f) (210) that move toward and away from one another. It would have been obvious to one of ordinary skill in the art at the time the invention was

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made to modify the arranging means, of Bovone, with a lifting device formed with grippers (instead of a pin) that move toward or away from each other, in view of Monforte, in order to provide a lifting device that can pick up various size support elements and provide a stronger grasp on the selected element.



5. Claims 13-15, 17-21, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bando (5396736) on view of Bovone (5433657) and Ercole et al. (4848005).

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In reference to claims 13-15 and 19-21, Bando discloses a glass-plate working apparatus comprising, grinding means (47) for grinding a peripheral edge of a glass plate (22), grinding supporting means for supporting the glass plate whose peripheral edge is to be ground by said grinding means and transporting means including one lifting device (56A) for raising the glass plate to be carried in, another lifting device (56B) for raising the glass plate on the suction cup to be carried out, and a slider (55) to which said suction-cup lifting device, said one lifting device and said other lifting device are attached, and which is linearly movable in one direction for transporting said glass plate in and out said grinding supporting means by a linear movement thereof crossing above said grinding supporting means, wherein said grinding supporting means includes a grinding supporting table (19), but lacks, a plurality of suction cups held on said grinding supporting table by being attached by suction to said grinding supporting table and suck and hold the glass plate by sucking the glass plate whose peripheral edge is to be ground, and arranging means for disposing said plurality of suction cups at positions corresponding to a shape of the glass plate to be ground, wherein said arranging means includes a suction-cup lifting device equipped to said supporting means for raising the suction cup and is mounted to the slider. However, Bovone teaches a technique of providing grinding support means (Figure 1) formed with a supporting table (2) and a plurality of suction cups (3). In addition, Ercole et al. teach a technique of providing automatic arranging means that separately move work supporting elements (10) (Column 2, Lines 51-52, the work is not shown) from a worktable (2) by using a pick-up tool (11) that is attached to a moving frame (3) (or slider) for selectively picking up said

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movable elements (10) from an element support body (12) and positions said elements on said worktable or picks up said elements from said worktable and positions said elements back in said element support body (Figure 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus, of Bando, with a plurality of suction cups held on said grinding supporting table by being attached by suction to said grinding supporting table and suck and hold the glass plate by sucking the glass plate whose peripheral edge is to be ground, and arranging means for disposing said plurality of suction cups at positions corresponding to a shape of the glass plate to be ground, wherein said arranging means includes a suction-cup lifting device equipped to said supporting means for raising the suction cup and is mounted to the slider, in view of Bovone and Ercole et al., in order to provide stable and reliable fixing between workpiece and the support surface independently of the shape of the workpiece and to provide a device that can more accurately and quickly position work supporting elements according to the work being used thus saving time and expense.

In reference to claims 17, 18, 23 and 24, Bovone also discloses a suction cup formed with an annular abutment surface (see figure above), a recessed surface (see figure above) held by suction (through lines 15, 16, 20, 55, 56).

6. Claims 16 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bando (5396736) in view of Bovone (5433657), Ercole et al. (4848005) and Monforte (4809425). Bando in view of Bovone and Ercole et al. disclose the claimed



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invention previously mentioned above and Bovone further discloses that the suction cups include a cylindrical body whose upper surface (see figure above) is covered with an elastic member (11) for abutment against the glass plate (1), a disk body (bottom portion) (see figure above) for abutment against said grinding supporting table and a connecting shaft (see figure above) which connects said disk body and said cylindrical body however Bando is silent in having a lifting device formed with grippers that move toward or away from each other. However, Monforte teaches that a robotic arm can be formed with multiple types of end effectors (Figures 3a-3h) and that they are all equivalent of one another where one such arm includes grippers (Figure 3f) (210) that move toward and away from one another. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the arranging means, of Bando, with a lifting device formed with grippers (instead of a pin) that move toward or away from each other, in view of Monforte, in order to provide a lifting device that can pick up various size support elements and provide a stronger grasp on the selected element.

### ***Response to Arguments***

7. Applicant's arguments filed August 27, 2008 have been fully considered but they are not persuasive.

8. Applicant contends that **“According to the glass-plate working apparatus of claim 13 and claim 19, it is not necessary to install individually a slider for moving a glass-plate and a separate slider for moving a suction cup. Accordingly,**

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**Applicant's disclosure shows that it is possible to simplify the structure of the glass-plate working apparatus. There is no reasoned teaching or suggestion as to why one of ordinary skill in the art would have modified the Bovone, Ercole et al. or Bando to include a slider to which the suction cup lifting device, the one lifting device and the other lifting device are attached, and which is linearly movable in one direction. Any motivation to modify the teachings of the applied prior art to arrive at this subject matter is based on impermissible hindsight, which is not the proper foundation for a *prima facie* case of obviousness."**

a. However, the examiner respectfully disagrees with this statement. The examiner has not combined the use of two separate sliders since Bando already teaches that multiple lifting devices can be mounted to a slider therefore when taken in view of the teachings of Ercole et al. one could simply mount another type of lifting device on the slider except this lifting device performs the functions of assembling the work supporting means as previously discussed above in order to more accurately and quickly position work supporting elements according to the work being used thus saving time and expense. The examiner believes that there is clear motivation and thus believes the rejection is proper.

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT SCRUGGS whose telephone number is (571)272-8682. The examiner can normally be reached on Monday-Friday 8-6.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 571-272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RS

/Joseph J. Hail, III/

Supervisory Patent Examiner, Art Unit 3723